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10/813,163	03/31/2004	Zhenlin Liu	A8698	4479

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EXAMINER

SAYADIAN, HRAYR

ART UNIT	PAPER NUMBER
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2815

MAIL DATE	DELIVERY MODE
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10/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/813,163

Applicant(s)

LIU ET AL.

Examiner

Hrayr A. Sayadian

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 1-3, 5-14, 16-23, 25-34 and 36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4, 15, 24 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Notice Re Change of Examiner's A.U. Number

1. Examiner's Art Unit [hereinafter "A.U."] number has changed from 2828 to 2815. Applicant should use 2815 as the A.U. number in further correspondence regarding this Application.

Restriction Requirement

2. This application and pending claims 1-36 were subject to an Election Requirement, in the 4/17/2007 Office Action, between an embodiment directed to FIG. 1 and another directed to FIG. 11. Applicants elected Species B without traverse. This election requirement was made final in the 8/30/2006 Office Action. The finality of the 4/17/2006 Election Requirement is maintained.

3. Claims 2-4, 7-9, 12-16, 23, 24, and 33-36, directed to the elected species, were subjected to a restriction requirement as follows:

- I. Claims 2-4, 7-9, and 12-15, and 24 are drawn to details of fiber module integration of the system, classified in class 372, subclass 6.
- II. Claims 16, 23, 24, and 33-36 are drawn to details of the AOM modulation/filtering, classified in class 372, subclass 9+.

Applicant was required under 35 U.S.C. §121 to elect a single invention along with the corresponding group of claims for prosecution on the merits. Specifics of the Restriction Requirement are detailed in paragraphs 2 and 3 of the 4/6/2007 Office Action, which are incorporated herein.

Applicant's Election

4. In the 5/17/2007 reply, Applicant elected invention of Group I (drawn to the details of the of fiber module integration of the system). Applicant's however only traversed the 4/6 Office Action's inclusion of claim 24 in Group II rather than in Group I.

Examiner favorably notes the substance of Applicant's traversal. Examiner notes moreover that claim 35 depends from claim 24, but does not recite any feature placing claim 35 in a non-elected Species or invention. Claim 35 is therefore also included in Group I.

The Restriction Requirement of the 4/6/2007 Office Action is proper, is maintained, and is now made final.

Examiner notes however that claim 2 recites an isolator, disclosed by this Application only with respect to using the non-linear amplifier. Examiner notes also that the isolator and the non-linear amplifier are elements disclosed only with respect to the embodiment described with respect to FIG. 1. Examiner notes further that this embodiment is an embodiment restricted in the 4/17/2006 Office Action and not elected (without traverse) in Applicant's 5/10/2006 Reply.

Accordingly, Examiner has now withdrawn independent claim 2 and claims 3, 7-9, and 12-14 (which depend from claim 2), claim 16, claim 33, and claim 36 (which depends from claim 24 but recites isolator) from further consideration as being drawn to non-elected Species and non-elected invention. See, for example, 37 CFR § 1.142(b).

Objection to the 10/19/2006 Amendment – New Matter

5. The 10/19/2006 "amendment" is objected to under 35 U.S.C. § 132(a) because it introduces new matter into the disclosure of the invention by way of amending claim 15.

This amendment changes scope of the disclosed invention from that originally filed. The amendment neither merely clarifies the original disclosure, nor merely corrects typographical errors.

Specifically, amended claim 15 introduces new matter by way of now reciting:

and, other than said compressor module, coupled into the system by a fiber splice;

at least one and up to n - 1 means located between respective ones of said modules for connecting test equipment for monitoring spectrum and pulse quality at each location, at least to identify uncompressible pulse components, where n is the number of said modules and
at least one and up to n-1 means between ones of said modules for improving fidelity of the polarization state. (Underlined for emphasis).

The underlined recitations do not have support in the original specification and therefore present new matter. For example, the original specification does not explicitly exclude the compressor module from being coupled into the system by a fiber splice; nor does the original specification disclose an invention with up to n-1 means for connecting test equipment located between respective ones of the n modules; nor does the original specification disclose an invention with up to n-1 means for improving fidelity of the polarization state located between any of the n modules.

35 U.S.C. § 132(a) prohibits any "amendment [from] introduc[ing] new matter into the disclosure of the invention." Accordingly, Applicant is required to cancel, in the reply to this Office Action, the new matter introduced by the amendment to the specification.

Objections to the Drawings

6. The drawings are objected to under 37 CFR §§ 1.81 and 1.83(a). The drawings must show every feature of the invention specified in the claims. The recitations objected to above in the New Matter Objection therefore must be shown or these features canceled from claim 15.

To avoid abandoning this Application, Applicant must file, in the reply to this Office Action, corrected drawing sheets complying with 37 CFR § 1.121(d).

35 U.S.C. § 132(a) prohibits any "amendment [from] introduc[ing] new matter into the disclosure of the invention." Accordingly, new matter should not be introduced by either addition or deletion.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

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is to be canceled, the appropriate figure must be removed from the replacement-sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement-sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR § 1.121(d).

The next Office Action will notify Applicant of the required correction if the changes are not acceptable.

The objection to the drawings will not be held in abeyance.

Objections to the Specification

7. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. The specification is objected to as failing to provide proper antecedent basis for the subject matter in claim 15. See 37 CFR § 1.75(d)(1) and M.P.E.P. § 608.01(o). Correction of the following is required: See, supra, New Matter Objection.

The detailed description must be amended to provide antecedent basis for recitations in claim 15.

35 U.S.C. § 132(a) prohibits any "amendment [from] introduc[ing] new matter into the disclosure of the invention." Accordingly, new matter should not be introduced by either addition or deletion.

Claim Rejections - 35 U.S.C. § 112

9. Claim 15 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that Applicant, at the time the application was filed, had possession of the claimed invention. See, *supra* New Matter Objection.

Correction is required.

35 U.S.C. § 132(a) prohibits any "amendment [from] introduc[ing] new matter into the disclosure of the invention." Accordingly, new matter should not be introduced by either addition or deletion.

Claim Rejections - 35 U.S.C. § 102

10. Claims 4, 15, 24, and 35 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by U.S. PG PUB 2003/0156605 to "Richardson."

As to claim interpretation: With respect to all claims, the recitation "selected" and "selectively" is read to include the scope of choosing not to select, which includes the scope of not including the "tap units." With respect to claim 4 therefore the recitation "at least one tap unit within or between selected ones of said modules" has a scope of when (but not necessarily) choosing to place a tap unit, then placing at least one tap unit. Similarly with respect to claim 24, "selected ones ..." has a scope of when (but not necessarily) choosing to place a means.

With respect to all claims, additionally, intended use/outcome functional language has been considered but determined not to narrow scope of the claims absent structural limitations achieving the use/ outcome/function. For example, in claim 4, is provided as a pre-tested module" is an intended use, method of making, language not narrowing scope of the structural element. "Pre-tested" is considered and determined to have a scope including choosing the element, which is inherently met by element forming part of the system. Similarly, "configured to permit measuring ..." is considered and determined to include a scope including configured to enable, which any leakage allows. With

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respect to claim 15, the recitation "for monitoring spectrum ... " is considered and determined to be an intended use language and therefore having a scope of enabling the intended use function, which is met by any leakage. And with respect to claim 15, "to identify uncompressible pulse components" is considered and determined to be an intended use/outcome language and therefore having a scope of enabling the intended use function, which again is met by any leakage. And with respect to claim 15, "subject to separate assembly and test" is considered and determined to include any element because any element is "subject to separate test and assembly." And with respect to claim 35, "to reject light propagating in an unwanted polarization state" is considered and determined to include rejecting any polarization because the rejected polarization will be the unwanted polarization.

Examiner notes that leakage is inherent since absolute and complete isolation/insulation is not possible.

As to art rejection: Considering the extent of intended use/outcome functional language recitations lacking specific structure narrowing the system claims, Richardson is deemed to disclose all of the limitations of the claims. See, for example, the front page disclosing an oscillator 10, stretcher 128, an amplifier 68a, and a compressor 146. These modules are disclosed as connected by fiber splices. And by their very nature, these modules are subject to separate assembly and test. And these fibers would have leakage, which read y on the "taps," means," ... etc. The reflecting surface of the compressors/stretchers act as another "tap," means" ... etc. Richardson also discloses an AOM, which is disclosed by this application as functioning as a filter narrowing the spectrum. The filter narrowing the spectrum also reads on the function of the amplifiers disclosed by Richardson because no amplifier uniformly amplifies a spectrum and therefore its amplified output is filtered to narrower input spectrum by way of relative lower amplification of some spectra of the input signal.

Richardson discloses a down-converter 52 (disclosed as a pulse selector, which down converts the effective repetition rate of the laser system). Richardson discloses the

various down converters (pulse selectors) 132a and 132b that are AOM. See, for example, paragraphs [0136], [00185] and [0187].

Response to Applicant's Argument(s)

11. Applicant's arguments have been fully considered, but are found not to overcome the prior art rejections.

Applicant contends that Richardson does not disclose the AOM reducing repetition rate. In response, Examiner notes that the Abstract specifically discloses the feature Applicant contends Richardson fails to disclose.

Applicant also contends that the features recited in the claims have advantages. In response, Examiner notes that the rejection is anticipatory and therefore the anticipated limitations inherently have the advantage Applicant is touting.

Applicant also contends that Richardson fails to disclose "any polarization control." In response, Examiner notes that a simple search of Richardson disclosure at least brings up paragraph [0023] disclosing " polarization selecting arrangement to polarize the light pulses and maintain the polarization while the light pulses are inside the cavity."

And Applicant contends, "Examiner ... fails to recognize the differences between the laser in this published patent application and that as claimed." In making this contention, Applicant recognizes that "the fiber laser system in Richardson, as well as that of Applicant's own referenced prior art which Richardson largely adopts, are research tools fixed to optical tables which have been carefully assembled and aligned by PhDs and graduate students." Following this recognition, Applicant continues to contend, "the system disclosed in the present application can be produced in quantity and simply assembled using common fiber splicing techniques, from modules that can be separately assembled and tested." (Underlined for emphasis). In response, Examiner simply notes that Applicant's latter quoted sentence directly contradicts Applicant's former quoted sentence. Applicant's latter contention simply fails to convince because Applicant recognizes that PhDs and graduate students "carefully assembl[e]"

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(and therefore must be using "module[s] ... subject to separate assembly") and "align[]" (and therefore "module[s] ... subject to separate test").

CONCLUSION

12. **THIS OFFICE ACTION IS MADE FINAL.** Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. See M.P.E.P. § 706.07(a).

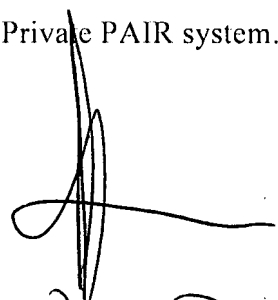
A shortened statutory period for reply to this Office Action is set to expire **THREE MONTHS** from the mailing date of this Office Action. Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a).

Any inquiry concerning this communication or earlier communications from Examiner should be directed to Hrayr A. Sayadian at (571) 272-7779. Examiner Sayadian can normally be reached Monday through Friday, 7:30 am – 4:00 pm ET.

If attempts to reach Examiner Sayadian by telephone are unsuccessful, his supervisor, SPE Kenneth Parker, can be reached at (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available only through Private PAIR. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. The Electronic Business Center (EBC) at 866-217-9197 (toll-free) may answer any question on how to access the Private PAIR system.

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SPE Kenneth Parker